

35. A method of separating fetal cells from maternal cells using the microflow system of claim 1, said method comprising the steps of selective magnetically staining of fetal cells in a fluid containing fetal and maternal cells, guiding flow of the fluid containing the fetal cells through a flow channel in such a way that one fetal cell at the time passes a cross-section of the flow channel, positioning the flow channel in a magnetic field that is substantially perpendicular to a longitudinal axis of the flow channel so that magnetically stained fetal cells residing in the flow channel are deflected in the direction of the magnetic field.

36. A method of separating cancer cells from other cells using the microflow system of claim 1, said method comprising the steps of selective magnetically staining of cancer cells in a fluid containing cancer and other cells, guiding a flow of the fluid containing the cancer cells through a flow channel in such a way that one cancer cell at the time passes a cross-section of the flow channel, positioning the flow channel in a magnetic field that is substantially perpendicular to a longitudinal axis of the flow channel so that magnetically stained cancer cells residing in the flow channel are deflected in the direction of the magnetic field.

37. A method of separating particles using the microflow system of claim 1, said method comprising the steps of guiding a flow of a fluid containing the particles through a flow channel in such a way that one particle at the time passes a cross-section of the flow channel, the flow channel having first and second outlet means for discharging of fluid from the flow channel, monitoring parameters of a particle residing within a measurement volume within the flow channel and controlling passage of fluid through the first and the second outlet means, respectively, in response to a monitored parameter value whereby particles may be separated according to values of a monitored parameter.

38. A method of analyzing components of a fluid using the microflow system of claim 1, said method comprising the steps of entering a fluid containing the particles into a flow channel and allowing the fluid to flow in the channel, the channel having a plurality of assay sites, each of which comprises immobilized reagents whereby the fluid can be analyzed for a plurality of components while residing in the channel.